In the Official Action, the Examiner requested Applicants to provide an update of the status information of the parent application, and Applicants have complied with this request. In addition, the specification was objected to for containing a typographical error caused by the word processing software, and Applicants have so amended the specification thereby obviating the objections.

The present invention relates to an isolated antibody to a collagen-binding peptide from *Staphylococcus aureus* as set forth in SEQ ID NO: 4. As set forth in the present application and in its parent case, now issued as U.S. Patent No. 6,288,214, the present invention has isolated specific collagen binding protein regions from *S. aureus* and has used these protein regions to generate antibodies which can be used in methods of treating or preventing *S. aureus* infection. In fact, the present invention involves raising antibodies to specific collagen binding domain regions of the *cna* protein, and not the whole *cna* protein, and Applicants' parent application has already been deemed patentable over antibodies to the whole *cna* protein, a protein from *Staphylococcus aureus*. Accordingly, it is clear that the antibodies of the present invention, much like the antibodies of the parent application now patented as US 6,288,214, have different material structural and functional characteristics from antibodies raised against the whole CNA protein, and thus these antibodies will even be completely different in terms of material structural and functional characteristics from antibodies raised against possible collagen binding proteins in different bacterial species, much less antibodies to collagen binding proteins in eukaryotic animals which are completely different than bacterial proteins.

However, the main references cited by the Examiner only relate to collagen binding proteins from eukaryotic animals and thus have absolutely no relevance to the present invention wherein antibodies are raised against a specific protein from the collagen binding region of *S. aureus* bacteria. In this regard, the prior art references cited by the Examiner from eukaryotic animals are clearly irrelevant to the present invention in that they would have completely no bearing on treating or preventing infection by *S. aureus* bacteria as is the case in the present claims. Specifically, the Examiner rejected Claims 1-3, 5-11 and 13-16 on the basis of the Wirl et al. reference, which relates to rat collagen binding proteins, and on the basis of the Ogle et al. reference, which relates to chicken collagen binding proteins. However, as reflected in the enclosed Declaration of Dr. Joseph M. Patti, Ph.D., these references relate to completely different collagen binding proteins from eukaryotic animals which have completely different properties to the collagen binding proteins from *S. aureus* of the present invention, and such completely different proteins could not be used to generate antibodies which could be used to treat or prevent infection by *S. aureus* bacteria. Accordingly, these references clearly do not disclose or suggest the invention as presently claimed, and the Examiner's rejections on the basis of the Wirl and Ogle references are traversed and should be withdrawn.

Similarly, it is in fact the case that antibodies generated to a subdomain from the whole collagen binding protein will differ from antibodies generated against the whole *cna* collagen binding protein. Accordingly, the fact that the prior art disclosed the generation of antibodies to the whole *cna* protein has absolutely no relevance whatsoever from the generation of antibodies to a specific region from the whole

protein, and indeed antibodies from another subregion from the whole *cna* protein has already been deemed patentable over such prior art, and this is reflected in issued US Patent No. 6,288,214.

In this regard, the Examiner's rejection of Claims 1-16 under 35 U.S.C. § 102(b) as being anticipated by Patti et al (1992) is respectfully traversed in that the prior Patti reference only disclosed the generation of antibodies to the whole *cna* protein, and not to specific subregions such as disclosed and claimed in the present application, and in Applicants' parent application, now US Patent 6,288,214. As set forth in the attached Declaration of Dr. Patti, antibodies raised against specific subregions of the collagen binding domain will have different and distinct properties as compared to antibodies raised against the entire protein, and the fact that antibodies may have been generated against the entire protein does not disclose or suggest a protein generated against a specific region of the whole binding protein. Accordingly, the Examiner's rejection of the present claims on the basis of the Patti et al. 1992 article is respectfully traversed and should be withdrawn.

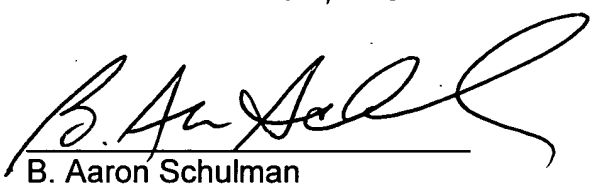
Finally, the Examiner rejected the claims on the basis of the Patti et al. 1995 article in *The Journal of Biological Chemistry*. However, this article is not prior art to the present application because does not reflect the invention of another and it was not published more than a year before the priority date of the present claims. In fact, the present application claims priority to U.S. Provisional Application Serial No. 60/017,678 filed May 16, 1996, while the Patti et al. 1995 reference has a publication date of May 19, 1995. Therefore, the present application claims priority from an application that was filed less than one year from the publication date of the Patti et al. reference.

In addition, the Patti et al. 1995 reference does not reflect work of another inventive group, but indeed reflects the work of the present inventive entity, as shown in the accompanying declaration by Dr. Joseph M. Patti.[1] Accordingly, the 1995 Patti et al. article is removed as a reference, and the Examiner's rejection on the basis of this reference is respectfully traversed.

In light of the above amendments and arguments, Applicants submit that the present application overcomes all prior rejections, and is in condition for immediate allowance. Such action is earnestly solicited.

Respectfully submitted,

LARSON & TAYLOR, PLC



September 9, 2002

B. Aaron Schulman
Registration No. 31,877

1199 North Fairfax Street, Suite 900
Alexandria, Virginia 22314
(703) 739-4900

[1] The Declarations of the other inventors, Dr. Magnus Hook and Dr. Karen House-Pompeo under Rule 131 are also attached hereto, and executed declarations will follow shortly.

ATTACHMENT A

Marked Up Replacement Paragraphs

At the following locations, a marked up copy of the replaced paragraphs are provided.

Page 1, lines 1-6:

I. Background of the Invention

The present invention is a divisional application of U.S. Serial No. 08/856,253, filed May 14, 1997, now U.S. Patent No. 6,288,214, issued September 11, 2001, which was based on U.S. Provisional Application Serial Number 60/017,678, filed May 16, 1996, the entire content of which is incorporated herein by reference. The United States Government has certain rights to the present application pursuant to Grants HL47313 and AI20624 from the National Institutes of Health.

Page 2, lines 9-19:

The present invention relates generally to the field of molecular biology. More particularly, certain embodiments concern methods and compositions comprising DNA segments, and proteins derived from bacterial species. More particularly, the invention provides ~~-cancna~~ and ~~-cancna~~-derived nucleic acid compositions comprising a collagen (Col) binding protein (CBP) from *Staphylococcus aureus* and the corresponding peptide epitopes and protein sequences comprising native and synthetically-modified Col binding site domains. Various methods for making and using these DNA segments, DNA segments encoding synthetically-modified ligand binding site domains, and native and synthetic proteins are disclosed, such as, for example, the use of DNA segments as diagnostic probes and templates for protein production, and the use of proteins, fusion protein carriers and peptides in various pharmacological and immunological applications.